FOOD SCIENCE **Newsletter** Voedselwetenskap

August 2019 Augustus

More than 5 000 newcomer students, accompanied by their parents, were welcomed by Stellenbosch University (SU) during the official welcoming event held at Danie Craven Stadium on Thursday, 24 January 2019.

...That was just the other day and now we are more than half way through the academic year.

The first half of 2019 was quite busy in terms of exchange programs abroad and conferences attended by academic staff and students. The NPD (new product development) lab is buzzing with some interesting and hopefully mouth-watering new products. The final presentation will take place on 10 October 2019 and we are very excited about this year's theme.

We were ranked even better by the ShanghaiRanking's Global Ranking of Academic Subject 2019. A record number of four PhD and seven MSc candidates graduated in March this year.

We are also very excited with Leah Bessa, MSc Food Science graduate and current PhD (Animal Science) student with the launch of the '*The Insect Experience*', an insect concept store with a tasting menu to help guide consumers into a new era of eating.

Only a few months left until the end of the year.

Make every day count and be creative.

Remember the words of one of our greatest leaders, Nelson Mandela,

'It always seems impossible until it's done.'

Photo: Stefan Els

SAMPA donated R1million to the SU Food Safety Initiative.

Engela Duvenhage

The South African Meat Processors Association (SAMPA) has donated R1 million towards the activities of Stellenbosch University's Centre for Food Safety. The funding will support ongoing endeavours related to food safety research at Stellenbosch University. The Centre aims to support the local food industry as a whole and was established in November 2018.

The donation was handed over by SAMPA executive committee members representing the association at a gathering at the University.

“Food safety requires effective regulation, capacity and transparency," said food microbiologist and Centre director Prof Pieter Gouws. “The partnered approach of the Centre is aimed at strengthening the food safety system in South Africa, and to protect consumers."

He hopes the Centre will increasingly play a leading role in educating consumers about food-related issues.

The Centre for Food Safety is situated within the Department of Food Science in the Faculty of AgriSciences at Stellenbosch University. It is the only one of its kind in the country focusing on applied food safety research. It looks into matters related to food defence and food processing. It was founded in 2018 as a combined effort between Stellenbosch University and the food industry. Its staff provide expert opinion and academic support to the industry and conducts research into food safety matters. It also strives to use sound scientific evidence to influence food safety regulations being considered by government. Work is done in combination with industry leaders and researchers.

“Food-related diseases have a significant impact on consumer health and the viability of the food industry," said Prof Gouws, who noted that food-related diseases and product recalls are a worldwide problem that is not unique to developing countries.

Of the Centre, he said: “As an independent entity our mandate is to work across all faculties and disciplines within the University and together with other institutes, national and international institutions of higher education, as well as public and private enterprises in South Africa and abroad."

According to SAMPA president Andrew Cocks, it is essential for industry to support science-based research such as is being done through the Centre for Food Safety.

“Improving South Africa's food management system through better integration and collaboration across key role players, including food manufacturers, government and academia is crucial to SAMPA," he noted.

SAMPA vice-chair Arnold Prinsloo expressed thanks to the University and Prof Gouws in particular for the invaluable help and expert knowledge provided to the industry during the recent listeriosis outbreak.

“It showed us that we need more interaction between industry and researchers. We need to make sure it does not happen again," added Cocks. “Food safety is a generic issue, and not only limited to one company or one factory. If we do it right, it's better for the whole industry."

SU vice-chancellor Prof Wim de Villiers thanked SAMPA for its support towards the Centre, and reiterated the importance of industries and universities working together in support of the public good.

“Knowledge production and application in the 21st century is characterised by convergence, cooperation, collaboration. Universities need input from industry to ensure that our research and our output of graduates meet the real-world needs out there," he said.

About SAMPA:

The South African Meat Processors Association (SAMPA) was founded in 1945 and is a voluntary association of stakeholders in the meat processing and related sectors. It is the nationally representative organization for the processed meat sector by authorities and is instrumental in converting voluntary standards into compulsory ones in the interest of consumer protection, product quality and food safety. SAMPA members strive to ensure that final products are safe for consumption and provide consumers with nutritious, value for money products that comply with labelling requirements

SAMPA Donation

A donation of R1 million was handed over to the vice-chancellor of Stellenbosch University, Prof Wim de Villiers (front row, second from left), by executive committee members of the South African Meat Processors Association. It will further the work done by the Centre for Food Safety, led by Prof Pieter Gouws (front, left). The SAMPRA members attending were (left, back row) Wesley de Jager, Bruce Smit (second from the right, back row), Alistair Hayward (right, back row), and (front) Arnold Prinsloo, Peter Gordon (chief executive officer: SAMPA), Andrew Cocks (President: SAMPA) and Melindi Wyma. With them are (back row) Prof Gunnar Sigge (chair: SU Department of Food Sciences), Prof Danie Brink (dean: SU Faculty of AgriSciences). **Photographer**: Anton Jordaan

Rooibos sensory wheel – turning heads at World Tea Expo in Las Vegas, USA

MMuller

International interest in the rooibos sensory wheel received a boost at the recent World Tea Expo that was held in June in Las Vegas, USA. The latest version of the rooibos sensory wheel, developed in 2017 by the ARC Infruitec-Nietvoorbij and Stellenbosch University, found its way to the expo to "educate" industry clients of a local rooibos marketing company in the complexities of rooibos flavour. Feedback from clients varied from "So nice to have a guideline for the rooibos taste profile" to "just what the industry needs". The clients also enquired about the availability of a flavour kit and reference standards for the taste profiles.

The good news is that the development of such a flavour kit was recently completed. The work was done by a PhD in Food Science student, Ms Brigitte du Preez under the guidance of Prof Lizette Joubert of the ARC, and Dr Erika Moelich and Nina Muller of the Department of Food Science, Stellenbosch University. Flavour kits are used for "taster calibration" and training of quality control staff, amongst others.

Angel in Germany

Angel Makhubo was also funded by DAAD and the University of Stellenbosch's International office to attend an exchange program in Germany.

She had the opportunity to learn some new programmes to apply to her data for her MSc project during her exchange program at Reutlingen University.

Prof Gunnar Sigge on RSG radio.

Click on the link to listen to the podcast.

Please note that RSG is an Afrikaans Radio station.

https://iono.fm/e/670537

ShanghaiRankings

We are pleased to announce that we were ranked at 51-75 in the latest rankings.

Please use this link to see the latest ShanghaiRanking's Global Ranking of Academic Subject 2019 for

Food Science & Technology. http://www.shanghairanking.com/Shanghairanking-Subject-Rankings/food-science-technology.html

Erasmus exchange opportunity - ITALY **KA Jordaan**

I am currently a second year MSc Food science student specialising in meat science. I was granted the opportunity to be part of a 6 months Erasmus Mundus exchange period abroad. I was enrolled at the University of Padova, about 40 km from Venice, Italy. The fully funded exchange agreement required me to work part time as a lab-assistant and to work with Professor Antonella dale Zotte and help her with her weekly projects. I was involved in three trials. Two of them involved trials on the meat quality of rabbit meat and a third one on the digestibility of quails. We were working as a group of international students from Thailand, Turkey, Bangladesh, India and Italy. Time was also set aside for me to work on my thesis. Evenings and week-ends I had the opportunity to travel and explore the streets of Padova. Except for the academic knowledge gained, I walked away blessed by the vibrant Italian culture, the delicious cuisine, special friendships and personal growth I never imagined I would go through. I would advise anyone with the desire to grow academically and personally to apply for such opportunities. These opportunities are there, you must just find them!

Kayla-Anne exploring Italy while on Erasmus Mundus exchange program

https://www.topuniversities.com/student-info/studying-abroad/europes-erasmus-student-exchange-program

Graduation , MARCH 2019

At the March 2019 graduation ceremony 8 BSc Food Science degrees were awarded.

The first 3 MSc in Food and Nutrition Security degrees were also awarded of which 2 *cum laude* (Alison Barr & Anja Lategan).

There were 7 MSc in Food Science awarded of which 3 *cum laude* (Anika Laubscher, Kiah Payne & Elizabeth Sivhute).

PhDs were awarded to 4 candidates with the following titles

Gerida de Groot : Food Science

(Supervisor: Prof Marena Manley; Co-supervisor: Dr Glen Fox)

Genotyping South African wheat cultivars for hardness alleles.

Chantelle Human: Food Science

(Supervisor: Prof Dalene de Beer; Co-supervisor: Prof Lizette Joubert)

The physicochemical properties and stability of aspalathin in micro-and nanoencapsulated green rooibos extract formulations.

Michaela van den Honert: Food Science

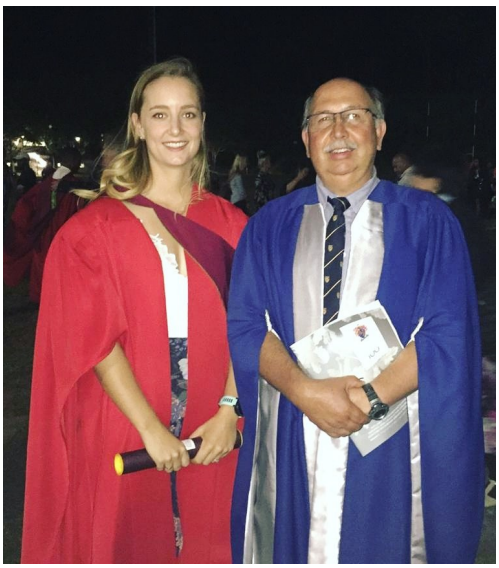
(Supervisor: Prof Pieter Gouws; Co-supervisor: Prof Louw Hoffman)

Antibiotic resistance prevalence in livestock and wildlife species in South Africa.

Zaharan Hussein: Food Science

(Supervisor: Prof Linus Opara; Co-supervisor: Dr OA Fawole, Prof GO Sigge)

Bruise damage susceptibility of pomegranates and impacts on fruit quality.



Prof Marena Manley, Dr Gerida de Groot, Dr Michaela van den Honert, Prof Pieter Gouws, Ms Elizabeth Sivhute, Prof Gunnar Sigge and Ms Anika Laubscher at the graduation ceremony. (photos provided by graduates)

PASSION FOR PEOPLE & EXCELLENCE

'At Food Safety Excel we have passion for people and passion for excellence. We invest in the next generation by giving them the opportunity to experience and build relationship with our food safety coaches and the industry'.

The 2018 NPD winning group, EasyBeanz was given the opportunity to attend a 'Food Safety Excel' course at the beginning of 2019.

The EazyBeanz group won the prize during 2018 final years' NPD Presentation for ***"Best presentation with regards to communication of the integral food science concepts to a wide audience***. It was paramount that the prize winners were given the opportunity to experience the industry hands-on, ask questions and visit processing facilities. The prize consisted of the following:

Mentorship
Each member of the winning group could attend 1 day accompanying a Food Safety Excel coach to a client.

AND

A 4 day FSSC 22000 V 4.1 Implementation Public Workshop
Each member of the winning group to attend a public 4 day FSSC 22000 V 4.1 Implementation workshop free of charge, presented by Food Safety Excel.

Feedback from some of the group members: *"It was a great experience with sound mentorship. And a great opportunity for any forward thinking student to be part of."* **- Sebastian Orth-.**

"Eye opening and inspiring. Really had me excited to enter industry and to carry on learning!" **- Kyle Corbett -**.

The prize winners that attended the 4 day FSSC 22000 V 4.1 Implementation Workshop attended the workshop together with delegates from the food industry. This ensured that relevant examples of bad practices, good practices, photo evaluations and practical solutions could be discussed.

Feedback from Stephanie Phelps: "*I really enjoyed the layout of the course. The delegate manual helped set the work in an easy manner to understand that didn't overload with FSSC information".*

From Left: Sebastian Orth, Kyle Corbett, Chrisna Viljoen (Facilitator), Layken Curnow and Stephanie Phelps at the FSSC 22000 V 4.1 Implementation Workshop.

CONTACT THEM:

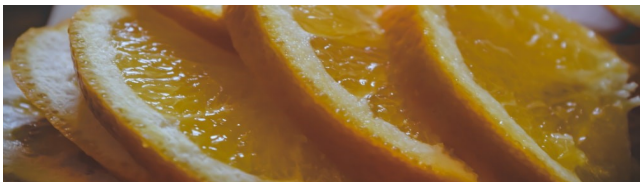
www.foodsafetyexcel.co.za

chrisna@foodsafetyexcel.co.za

(the content of this page provided by Food Safety Excel)

We would like to thank Food Safety Excel for this valuable opportunity.

Citrus and grape by-products could serve as food preservatives



Large amounts of citrus and grape by-products that are normally treated as waste and generally disposed of in landfills could potentially be used in the production of natural food preservatives.

This is one of the main findings of an interdisciplinary study at Stellenbosch University (SU).

“Our research has shown that the use of bioactive-rich citrus and winery by-products could provide an efficient, inexpensive, easily available and environmentally friendly platform for the production of natural and sustainable food preservatives," says Dr Cletos Mapiye from the Department of Animal Sciences at SU. He conducted the research with colleagues from the Department of Food Science and the Postharvest Technology Research Laboratory in the Department of Horticultural Sciences at SU. The study was published recently in the open access journal **Sustainability**.

Mapiye says for the successful adoption of fruit by-product-based natural preservatives in sustainable food systems, it is important to know the phytochemical (biologically active compounds in plants) composition, antioxidant and antimicrobial efficacy, safety and stability of these by-products during food processing.

“Bioactive phytochemicals play an important role in preserving food quality by retaining flavour, colour, texture and nutrients, while reducing the chance of contracting a foodborne illness and potentially contributing to the prevention of chronic diseases due to their antioxidant properties."

Mapiye and his fellow researchers analysed the phytochemical composition, as well as the antioxidant and antimicrobial properties of extracts from grape pomace, grape seeds and clementine mandarin orange peel and pulp grown in South Africa. After having collected samples of the fruit by-products, they washed and oven dried them and then grounded them into fine powders before extracting the phytochemicals for analysis.

The researchers found that grape extracts contained the largest amounts of condensed tannins while Mandarin peel extracts had the greatest content of ascorbic acid (Vitamin C).

“Overall, grape seed extracts had the most antioxidant activity of all the tested extracts, while antimicrobial activity was highest in mandarin orange peel and pulp extracts followed by grape seed and grape pomace extracts.

“Grape seed and mandarin orange peel and pulp extracts can be considered for potential application in foods either individually or in combination as excellent antioxidant and antimicrobial sources."

Mapiye says grape pomace, grape seeds and clementine mandarin orange peel and pulp could be a viable alternative to synthetic preservatives that are commonly used to inhibit and or delay the processes that cause food spoilage and enhance the quality, safety and shelf stability of foods.

“Because of its antimicrobial properties, clementine mandarin orange peel and pulp could be a viable alternative to sulphites, thereby reducing the risk of allergies posed by the use of the synthetic preservative."

Mapiye adds that consumer health concerns have led to fear and avoidance of foods containing synthetic preservatives.

He says the valorisation of fruit by-products as natural food preservatives has the potential to unlock new value chains for the fruit processing industry and contribute immensely towards sustainable food systems given the amount of food being wasted every year.

“Food spoilage is an important contributor to wastage with about 1,6 billion tons of food being lost or wasted annually. In South Africa, for example, annual postharvest food losses and wastes amount to 10 million tons, with about 95% of the food wastage occurring along the value chains prior to reaching the consumer."

Mapiye points out that at least 40% of the 1 million tons of mandarin produced annually in the country are channelled to juice production with waste accounting for 50% to 70% of the fresh weight comprising of peels, pulp and seeds.

“In addition, 1,5 million tons of grapes are produced for wine production with pomace making up 20% to 25% of the pressed grapes on dry matter basis. Grape pomace is made up of stalks, seeds, skin and pulp."

Mapiye says given the dearth of systematic research in South Africa on the preservative capabilities of extracts from local grape and citrus by-products, it is important to establish the bioactivity and real benefits of these extracts for functional food applications.

“Further studies to validate the safety and efficacy of such products for in foods are warranted," he adds.

Author: Corporate Communication (Alec Basson)

SU food scientists, wine researchers benefit from donation by PA and Alize Malan Memorial Trust

Engela Duvenage

The activities of two departments of the Faculty of AgriSciences have received financial support from the PA and Alize Malan Memorial Trust. It supports the efforts of the Department of Food Sciences to investigate the use of ultraviolet light to clean sewage from rivers. The Trust further also supports the activities and research of one master's student and one staff member in the Department of Viticulture and Oenology.

According to one of the trustee members, Mr Andre de Wit, the PA and Alize Malan Memorial Trust support initiatives at schools and tertiary institutions in South Africa whose activities relate to culture, food, wine and the law.

The Memorial Trust was founded about 15 years ago by the estate of Pieter and Alize Malan of Worcester. Mr Malan was a lawyer in this Boland town and had wide business interests. He was a founding member of Santam and Sanlam in the 1910s and served on the boards of these companies for many years. Mr Malan was also chair of Nasionale Pers, the predecessor of Naspers.

After his first wife passed away, Mr Malan was married for 12 years to a speech therapist, Alize Wilmot. He passed away at the age of 80. Mrs Alize Malan was also a formidable businesswoman who invested in properties, shares and art. She was a member of an international food and wine association for many years, travelled often and had a wide circle of friends in the world of arts and theatre. She passed away at the age of 90.

It was her idea to establish a trust in support of especially tertiary education endeavours. The Trust has over the years supported various schools and institutions, including Stellenbosch University.

"We are grateful for every donation, no matter its size, which helps our faculty and its people to continue their work in support of the South African agricultural and food industry in general," says Prof Danie Brink, Dean of the Faculty of AgriSciences.

The support of the AP and Alize Malan Memorial Trust supports the Department of Food Science's studies on how ultraviolet (UV) light can best be used to purify sewage from river water.

According to Prof Gunnar Sigge, chair of the Department of Food Science, the problem of sewage that ends up in rivers creates many headaches. It, in particular, becomes an issue when crops are irrigated from such polluted rivers. Alternatives to the use of chemicals to clean contaminated water are increasingly being sought, and the use of UV light looks promising as a quick and relatively easy solution.

"We want to determine, among other things, the correct doses of UV light needed to purify certain disease-causing bacteria and other pathogens from water," says Prof Sigge.

Thanks to the Trust's support, the Department of Viticulture and Oenology is able to fund one staff member's activities this year, while the studies of a master's student in the department, Isabelle dos Santos, are also supported.

An ultraviolet light device like this one, is used to test how disease-causing bacteria can be purified from river water.

First three trailblazers graduate with an MSc in Food and Nutrition Security

Ella Duvenhage

Alison Barr, Hlanzeka Mpanza and Anja Lategan will forever go down in the annals of Stellenbosch University (SU) as trailblazers. They are the first three students to graduate with an MSc degree in Food and Nutrition Security from the institution, after the programme was first launched in 2017. (*This link will take you to the original article on our Website—links will open in here.)*

Mpanza is a nutritionist, while Barr and Lategan are food scientists. They received their degrees during the University's April 2019 graduation ceremonies.

The programme provided them with a broad, comprehensive take on health matters and the role that adequate nutrition plays therein. It was conceptualised to help policy makers and practitioners in different sectors make better decisions about issues related to food provision and food security.

Only fifteen students are selected each year. The programme comprises twelve modules and a research assignment, and students do not have to be based on campus full time. Coursework is presented jointly by the SU Faculty of AgriSciences' Departments of Food Science and of Agricultural Economics, along with the SU Faculty of Medicine and Health Sciences' Department of Interdisciplinary Health Sciences (Human Nutrition Division).

According to programme leaders Prof Xikombiso Mbhenyane of the SU Division of Human Nutrition and Prof Gunnar Sigge of the SU Department of Food Science, issues around food and nutrition are complex and multidisciplinary by nature, because human livelihoods are at the heart of it.

“The MSc in Food and Nutrition Security programme aims to equip students to view the holistic nature of food and nutrition security, to take all factors into account and to propose solutions to specific problems in the food system while keeping the bigger picture in mind," explains Prof Gunnar Sigge of the SU Department of Food Science. “The programme aims to bring together the natural, social and nutrition sciences to address these issues."

Capetonian Alison Barr worked in the field of food quality and food safety before embarking on her MSc studies. She is serious about food equality in terms of rights and access to food, ways to support industries and optimise value chains so that sustainable food systems can be created.

“The range of modules that make up the course gave me well-rounded exposure to all aspects impacting food and nutrition security," she explains.

In her research project, Barr investigated the competitiveness of the local wine sector, and learnt about aspects of agricultural economics. Anja Lategan's research project was about the nutritional value of insects, and whether food products made from insects containing iron, zinc, vitamin A, folic acid and iodine could solve people's nutritional needs.

“The skills that I obtained through my studies, such as critical and analytical thinking, report writing and how to collaborate with people, are of great value in my career," states Lategan, who lives in Kuils River and recently started a new job in Bellville.

Nutritionist Hlanzeka Mpanza works for a multinational food company in Durban. She decided to follow the programme to gain more insights into the broader decisions made about food that also influence sustainable change.

More information about the MSc programme in Food and Nutrition Security:

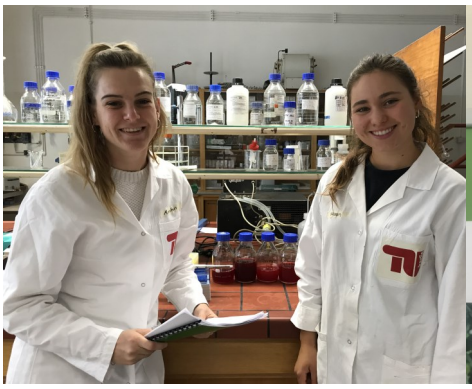
Online applications for the 2020-intake closes on 31 August 2019 (for international candidates) and 30 September 2019 (for South African candidates). To apply, visit Stellenbosch University's Prospective Postgraduate Student website (www.sun.ac.za/pgstudies).

- To qualify for selection, you need a relevant BSc degree in the Science (3 years) and an Honours degree, OR a BSc Agriculture degree OR a four year degree in Health Sciences with a minimum pass mark of 60%, OR a Bachelors or Honours degree that has been approved by the Senate on level 8 of the National Qualifications Framework (NQF), with the same pass mark as mentioned above.

For more information, view this brochure.

For more information about the programme content, contact Prof Gunnar Sigge (gos@sun.ac.za) or Prof Xikombiso Mbhenyane at (xgm@sun.ac.za). For general inquiries, contact Julia Harper (jrs@sun.ac.za).

In the photo from left: Anja Lategan, Hlanzeka Mpanza and Alison Barr.



Foodberlin exchange program attended by 2 Maties

Kirsten Wessels and Suzaan Dobson

From 1 to12 July 2019 a little dream became a big reality! Kirsten Wessels and Suzaan Dobson went to Berlin, Germany on an exchange program.

These 2 students first heard about the exchange program through the International office on SU campus.

After being selected to take part in an exchange program, they could choose a specific course to attend.

They choose to attend the FOODBERLIN 2019 course.

A summer school exchange in Berlin where we met with 20 academics from around the world to discuss solutions of feeding a population of 9 billion in the year 2050. The course covered how we can work towards a sustainable diet that satisfies all areas of concern from food safety, security and quality to environmental and animal welfare. We were assigned a specific project that investigated Modified electric field (MEF) technology as a food preservation technique.

This exchange was made possible by sponsorships from Stellenbosch University as well as DAAD (https://www.daad.de/deutschland/stipendium/en/) in Germany.

Sustainable Food Systems—'Our future requires sustainable food systems. Despite climate change, dwindling arable land and loss of biodiversity, a growing world population must be fed. Consumers demand healthy and safe food, animal welfare and intact landscapes. Producers need a reasonable income. Research finds answers to these global problems.'

Welcome back Matie students! Experiencing a little bit of PRD (Post Recess Depression)?

Let's plan your next adventure, while you settle back into university life...

Apply to study on exchange at a partner university for one or two semesters! SU International facilitates student exchanges with more than 100 institutions abroad, from SciencePo and Leipzig to West Virginia and Nagoya University.

If you're a SU student wanting to broaden your horizons, click on the links below to explore the wide range of academic exchanges at our partner institutions.
Apply before 16 August 2019 for study abroad opportunities in 2020. More info here:
https://www0.sun.ac.za/.../international-opp.../exchanges-1.html

Daphne Wabule, Food Science MSc student, went to Norway for a semester exchange funded by Stellenbosch University's International Office. Daphne went to the Norwegian University of Science and Technology (NTNU) in Trondheim.

Insects are the NEXT thing on our menu …and this is why

Leah Bessa

"*The Insect Experience*' is an insect concept store with a tasting menu for consumers to come in and try various beautifully plated dishes that all have insects in them in one form or another. We have a variety of insect dishes and different insects on the menu, and it allows people to come and see what they are all about and how different they are and how they can be used. It's a collaborative store, looking at creating a platform for other insect based companies to showcase their creations as well. We have True Food with their Mopane based products, Insektivore with their mealworm based products, Ensekta with their silkworm covered chocolate and Mane South Africa who has been supportive of the concept store and it's development. This store front caters for everyone, as we have included a variety of different dish options with some where the insects are not visually seen (in a powdered format) and some where they can be seen on the plate, and this allow people with varying degrees of aversion to try and enjoy the dishes.

Gourmet Grubb launched The Insect Experience as a way to showcase insects in a culinary light. We collaborated with a chef (Mario Barnard) to create a culinary experience with the insect ingredients that we source and produce. The pop-up restaurant in Woodstock, Cape Town had it's official launch last week and it was a sell-out, beyond any expectation!

https://ewn.co.za/2019/07/16/gogga-delight-chef-aims-to-convince-ct-insects-are-yummy seeing IS believing….

A little background: I researched insects as a meat alternative for my MSc Food Science with Dr Elsje Pieterse (Animal Science), Prof Louw Hoffman (Animal Science) and Prof Gunnar Sigge (Food Science). I then worked as a product developer for Pioneer Foods for 2 years, and then I wanted to create a company that could have a positive impact on food sustainability, so I left to start Gourmet Grubb with Jean Louwrens, who studied Supply Chain Management (also at Stellenbosch). Soon thereafter I felt there was still more research to be done in this new field, so I started with my PhD in insects as a protein alternative, at Animal Science with Dr Elsje Pieterse (Animal Science) and Prof Louw Hoffman (Animal Science). Currently I'm doing my PhD, doing R&D for Gourmet Grubb and running The Insect Experience, which is largely a consumer data collection point for us to have a better understanding of consumer behaviour.




Madiba-day at Food Science

As part of your #67minutes for #Mandeladay the Department of Food Science (post grad-students and staff) delivered some home-baked cookies to Huis Ebenhaeser, retirement home in Cloetesville, Stellenbosch.

Let's all try and remember to live by the words of this amazing roll model when he said: 'As we let our own light shine, we unconsciously give other people permission to do the same.' (Nelson Mandela)





Prof Pieter Gouws went to France in April

Prof Pieter Gouws attended the EU Food Safety Symposium from 24 – 26 April 2019 in Nantes, France, where he gave a talk on the recent Listeria outbreak in South Africa. Prof Gouws firmly believes that the changes we want to see in future will have to be included into today's planning.

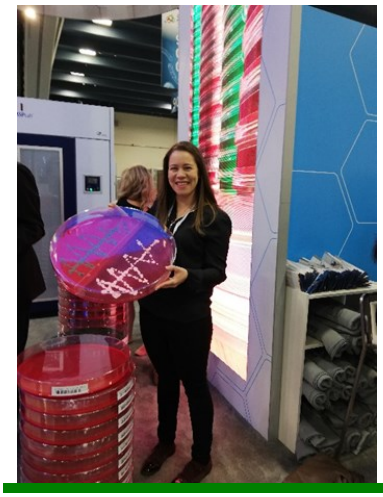
From the 28 – 30 April he visited the R&D of bioMerieux in Lyon, France. During his visit he experienced how the Europeans are working towards better food safety and the influence of the associated international regulations.

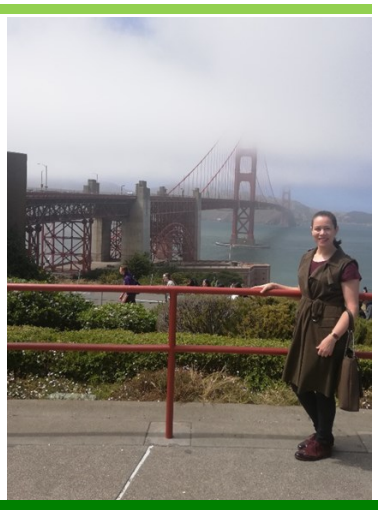
The Center of Food Safety and bioMerieux are currently in negotiation to establish formal collaborative links for future research.

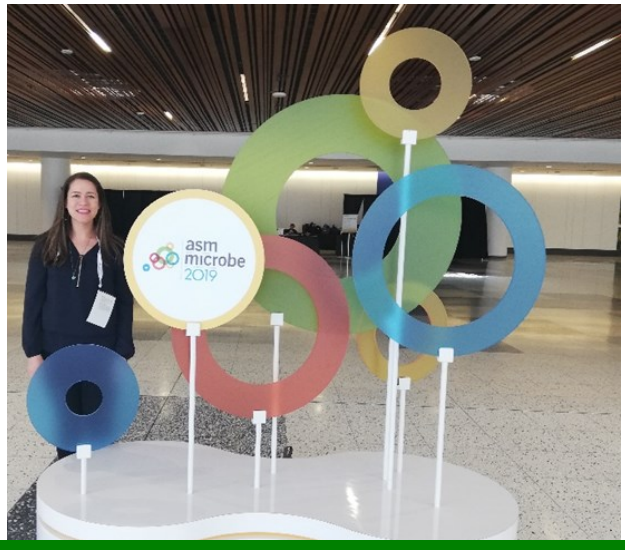
Diane Rip's San Francisco trip

I attended the **American Society for Microbiology (ASM) Microbe 2019** conference in **San Francisco 20-24 June 2019**, where research findings from an MSc study were presented. Thousands of guests from all over the world attended this conference (from clinical, food and agriculture related disciplines). Topics on the following themes were covered: Antimicrobial agents and resistance, Applied and Environmental Science, Clinical infections and Vaccines, Clinical and Public Health Microbiology, Ecology Evolution and Biodiversity, Host-Microbe Biology, Molecular Biology and Physiology and Professions on Microbiology. Given the focus area of our postgraduate (PG) research group at SUN, i.e. investigating food-borne pathogens that place a burden on human health (through a One Health Approach), attending this conference gave new perspective on emerging pathogens and the way forward; it also affirmed that the research topics offered for PG study next year is very relevant and important. Opportunities presented for future collaborations, which is always exciting.

Dr Rip at the Moscone Centre (conference venue) and doing some sightseeing in the city.







Institute of Food Technologists, IFT19, 3-5 June – New Orleans

On the 31st May I boarded one of three flights to take me to New Orleans to attend IFT19 – the Institute of Food Technologists annual meeting and expo. This annual event attracts delegate numbers of 18 000 to 24 000, depending on where the event is held. The event features three days of scientific sessions (up to 12 parallel sessions) and a food expo featuring ca. 1 300 exhibitors.

I have been involved in the scientific programme committee of IFT since 2015 and chaired the committee for IFT17 and IFT19. Although I wasn't presenting any research, I was involved in organising and moderating a session entitled "*United Nations Sustainable Development Goal 2: Achieving Zero Hunger by Reducing Food Waste, Improving Food Security, and Developing Innovations in Food Science*" which featured 6 speakers. I was also a involved in the Career Insights Panel discussion for the Emerging Leaders Network – a two-day global leadership program for new professionals in the science of food who are eager to expand their leadership skills. The program is designed to bridge the gap between the participant's academic experience and their on–the–job training.

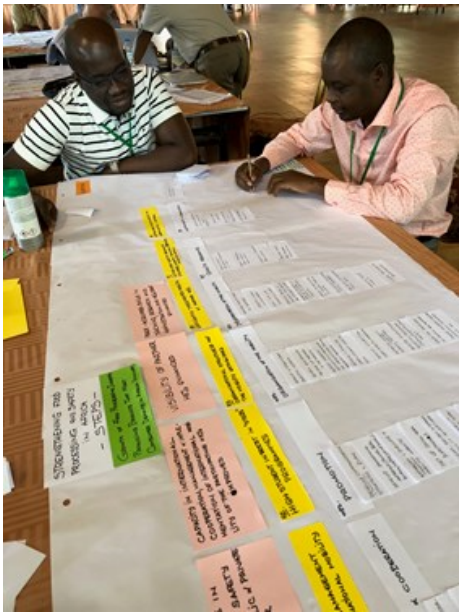
As usual, the conference was a blur of activity – trying to attend sessions, see as much of the expo as possible, attend several meetings, a few social events and trying to enjoy the cuisine of New Orleans. Unfortunately, I was hit by a nasty virus on the flight over to New Orleans and couldn't enjoy any of the local cuisine. Fortunately all the sessions, the panel and the conference were a huge success and the whole cycle will repeat itself for IFT20 in Chicago, 12-15 July 2020.

Photo left: Marina Braai salt

It was quite a pleasant surprise to find such a traditional South African product at the Food Expo in New Orleans

Intra-Africa Food Science capacity building collaboration

Prof Marena Manley has been invited to take part in a collaboration between Food Science Departments from five African universities, i.e. Stellenbosch University (South Africa), University of Abomey-Calavi (Benin), Makerere University (Uganda), University of Cape Coast (Ghana) and Jomo Kenyatta University of Agriculture and Technology (Kenya). This involved an Intra-Africa Mobility Scheme EU funding application (1 392 000 €) that could enable up to 43 postgraduate students to complete their MSc and/or PhD degrees at these respective Universities. The funding, with the aim to '*Strengthen Food Processing and Safety Education in Africa'* could also offer mobility to academic and administrative staff. This collaboration was initiated by RUFORUM who also enhance the application process by means of an organised Write shop in Entebbe Uganda (6-10 May 2019). An Africa Collaboration Grant from SU supported the visit of two colleagues from Benin and Uganda to the Department of Food Science at Stellenbosch (30 May – 5 June) during which time the application was finalised.



Following this initiative, Marena was invited to take part in a curriculum review of the Food Science Departments (Busogo Campus) of the University of Rwanda, and RP-IPRC-Musanze (Regional Polytechnic, Integrated Polytechnic Regional College) in Kigali, Rwanda. She also had the opportunity to visit the two Departments 100 km north of Kigali in Musanze.

Marena Manley - Invited Plenary Speaker at ICAVS10 (7-12 July 2019)

Prof Marena Manley presented an invited Plenary at the 10th International Conference on Advanced Vibrational Spectroscopy in Auckland, New Zealand. Near infrared (NIR) spectroscopy has never before been included as a research topic in this series of vibrational spectroscopy conferences. She was thus invited to introduce the delegates to NIR spectroscopy. She presented its history, development, differences and advantages compared to mid-infrared spectroscopy. The presentation was equally well received by early career and established researchers.

She was subsequently invited to spend two days at The University of Auckland hosted by a previous post-doctoral fellow at Food Science US, Dr Cushla McGoverin. The aim being establishing future research relationship and collaboration. The application of NIR hyperspectral imaging focussing on maize endosperm texture, a common research interest, will be investigated.

Prof Marena Manley in Auckland, New Zealand

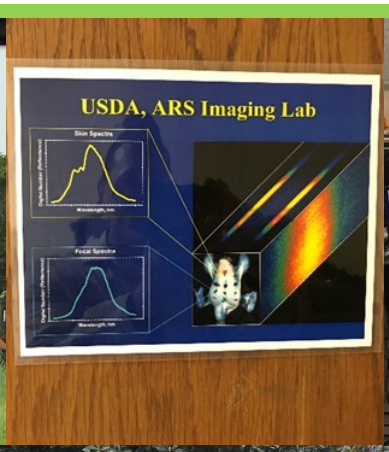
Paul Williams's research travels 2019

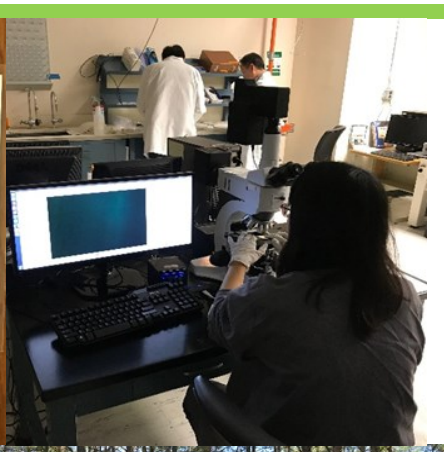
PJ Williams

In April 2019 I visited the Quality and Safety Assessment Research Unit of the USDA, in Athens, Georgia and attended the SPIE (The international society for optics and photonics) Defense and Commercial Sensing Conference in Maryland, Baltimore.

At the USDA, I visited Dr Bosoon Park's laboratory (8-12 April), where I received training on hyperspectral imaging microscope systems, visited numerous laboratories within the Quality and Safety Assessment Research Unit and discussed possibilities for potential research collaboration. Dr Park's group is known for developing rapid methods for detection and identification of foodborne pathogens using hyperspectral microscopy and surface plasmon resonance imaging. They recently implemented deep learning approaches for analysis of hyperspectral data and this serve as the basis for our future collaboration. The visit to Dr Park was funded by the NRF's Equipment Related Travel Grant funding instrument, allowing me to gain access to instrumentation not available in South Africa.

For the second leg of the trip, I attended the SPIE conference as an invited speaker in the Advance Imaging section, where I presented a talk titled: "Evaluation of fungal pathogens with hyperspectral imaging". This was a remarkable opportunity as this is the foremost conference on imaging, sensing, and photonic technologies. In the expo, exhibitions ranged from the latest technology in imaging and spectroscopy, to autonomous vehicles and drones. There was also an opportunity to capture an NIR hyperspectral image of myself (a hyperspectral selfie), a chance I simply could not miss!





And some more travel news…

PJ Williams

From 16-20 June 2019, I attended the 16th Scandinavian Symposium on Chemometrics (SSC 16) in Oslo, Norway. The subtitle of SSC16 was “Chemometrics in Action” and focused on the usefulness and versatility of chemometric methods in disciplines such as spectroscopy, process control and in the –omics area. Other areas of interest were multi-way methods, multivariate image analysis, data fusion, sensory analysis, big data and the current “hot topic (s)”, machine learning, deep learning and artificial intelligence. This was an amazing, insightful experience, rubbing shoulders with the pioneers and leading researchers in the field of chemometrics.

Student wellness

If you are struggling to cope with the pressures of your studies or on a personal level, and feeling stressed or overwhelmed, please consult with the Food Science Wellness champion, Mrs Megan Arendse (Room 2017, mcarendse@sun.ac.za).

She will assist you in getting the necessary help & guidance.